INTRODUCTION

Within the NH-AL State Forest, two areas have been identifies as "Special Management Areas"

Area 18: Trout Lake Forestry Headquarters

Area 19: Woodruff Administration and Fish Hatchery

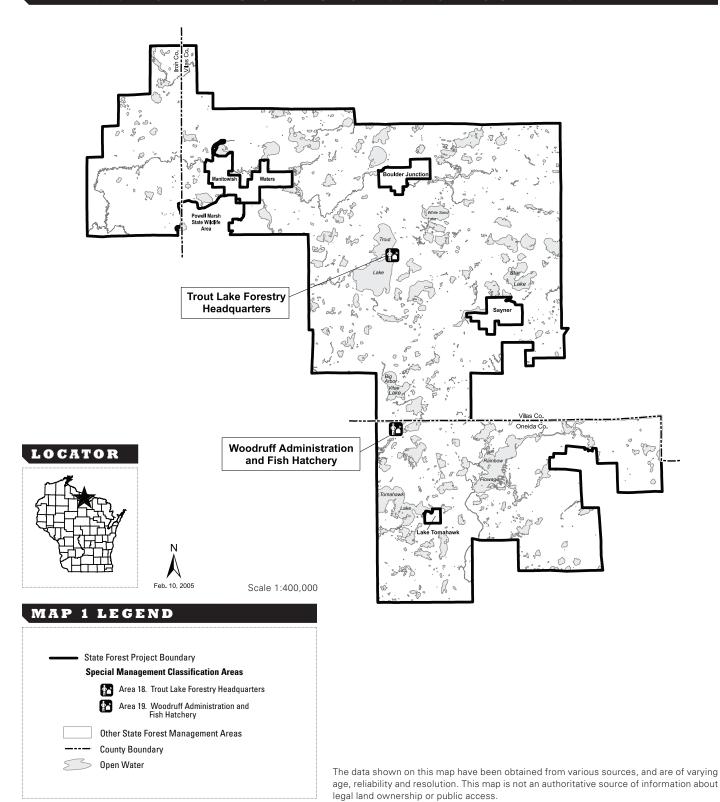
The management objective of a special management area is to provide and maintain areas and facilities for special uses not included under other land management classifications. Examples of special management areas include administrative or service facility areas, cultural resource protection areas, propagation or nursery areas and demonstration or experimental management areas when the primary use is for research and testing of new resource management methods and techniques (WDNR 2001).



INTRODUCTION 18-1

AREAS 18-19

MAP 46: SPECIAL MANAGEMENT CLASSIFICATION AREAS



18

Special Management Classification

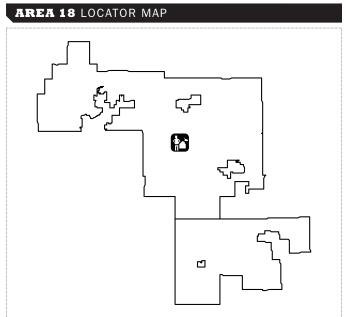
TROUT LAKE FORESTRY HEADQUARTERS

This administrative area encompasses the Trout Lake Headquarters/public contact building, the maintenance garages, and seasonal employee residence halls. This area is approximately 292 acres in size and is located near Trout Lake on HWY M. The Boulder Junction bike trail, which runs along HWY M, passes through the Trout Lake Administration area. This is also the former site of Wisconsin's first state tree nursery. It was established in 1911 and closed in 1968. The nursery area is managed as a pine plantation today.

AREA 18 SUMMARY

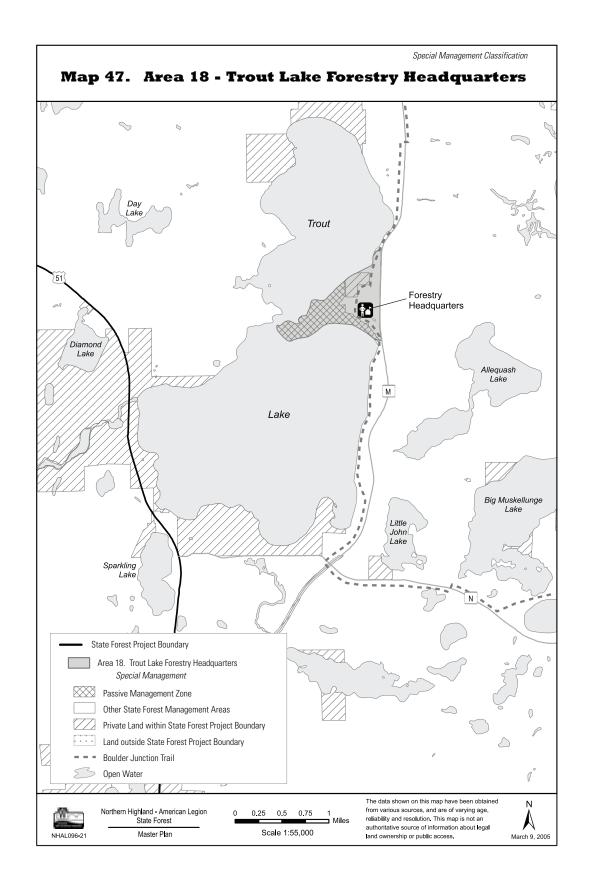
- **A** This area is approximately 292 acres in size with 263 acres in state ownership.
- Management for State Forest administrative buildings, aesthetic values, and recreational/educational uses.





18

TROUT LAKE FORESTRY HEADQUARTERS





TROUT LAKE FORESTRY HEADQUARTERS

LONG AND SHORT-TERM MANAGEMENT OBJECTIVES

- Provide general visitor information and support services as well as compatible educational opportunities.
- Provide facilities for state forest administrative and staff support functions, such as staff offices, customer service, and equipment storage and maintenance.
- Manage the forest across the management area primarily for long-term aesthetics. Maintain the scenic, old-forest characteristics of the Trout Lake Peninsula, including stands of large pines. In the other forest stands, manage to establish large trees with old-forest characteristics.

MANAGEMENT PRESCRIPTIONS

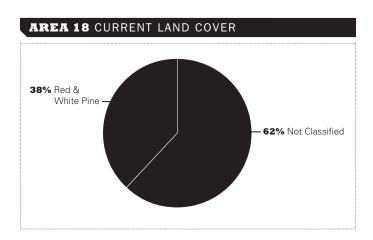
Facility Management

This master plan does not control the specific operations or development of facilities within this area. Administrative and operational facilities are managed under separate state administrative processes. Any historical buildings are managed according to the requirements of DNR manual code 1810.1.

Vegetation Management

The General Timber Type Management Prescriptions and all of their associated management activities (described at the beginning of the Land Management Section) apply, except as limited by the prescriptions below:

- Passively manage the Cathedral Point site. The area extends from the natural stands west of the office out to the point. An exception to the passive management prescription is the stand of the planted pines within this area. It should be actively managed until the stand reaches maturity (30-50 years), then review the longterm management needs for this stand.
- On the lands outside of the Cathedral Point area, use appropriate management techniques across the management area to develop large pines and northern hardwoods. Specifically, thin the plantations when they reach full stocking to promote larger trees and a natural stand appearance. Establish and maintain old-forest characteristics in the natural pine and red oak stands located east of the Office.
- Remove diseased and defective trees that are hazardous to staff or the public.
- Trout Lake is designated as an experimental lake as per Administrative Code NR 20.41. All management activities should consider the long and short term impacts to the research lakes.



18

TROUT LAKE FORESTRY HEADQUARTERS





WOODRUFF ADMINISTRATIVE AND FISH HATCHERY

This special management area encompasses the Woodruff administration/service center facility, maintenance garages, and the Art Oehmcke Fish Hatchery. This area is approximately 111 acres in size and bisected by HWY J.

LONG AND SHORT-TERM MANAGEMENT OBJECTIVES

- Provide facilities for NH-AL, a variety of customer services or programs, administrative offices, and equipment storage and maintenance.
- Provides facilities for fish rearing and related activities.

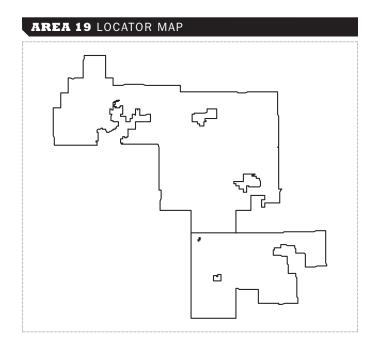
MANAGEMENT PRESCRIPTIONS

Facility Management

This master plan does not control the specific operations or development of the facilities within this area. Administrative and operational facilities are managed under separate state administrative processes. The day-to-day operations of this management area is under the direction of the fisheries program.

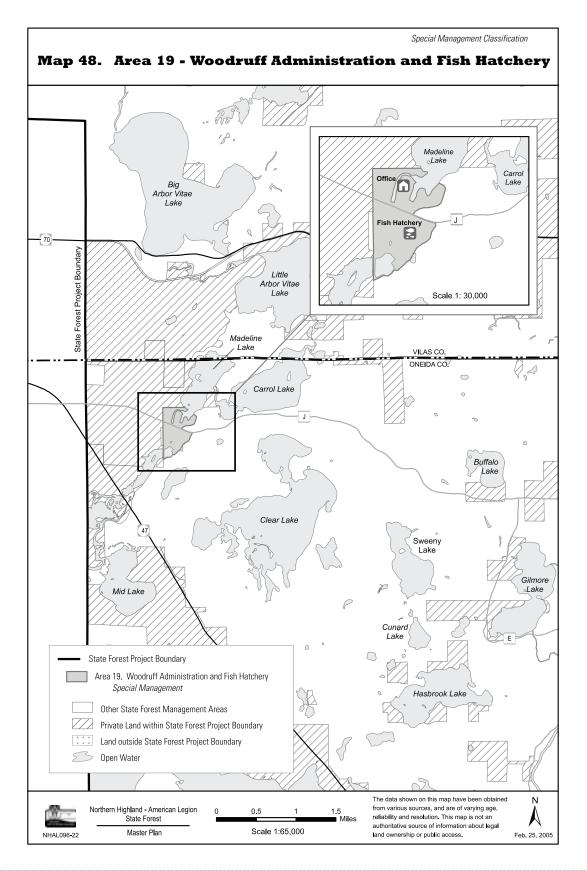
Vegetation Management

- Annually remove diseased and defective trees that may be hazardous.
- Periodically thin pine plantations around the buildings to maintain their growth and vigor.
- Other vegetation management activities may be conducted as needed to support the use and purposes of the area.



19

WOODRUFF ADMINISTRATIVE AND FISH HATCHERY



INTRODUCTION

Within the NH-AL, three areas have been identifies as "Recreation Management Areas"

Area 20: Crystal Lake Recreation Area
Area 21: Bittersweet Recreation Area
Area 22: Clear Lake Recreation Area

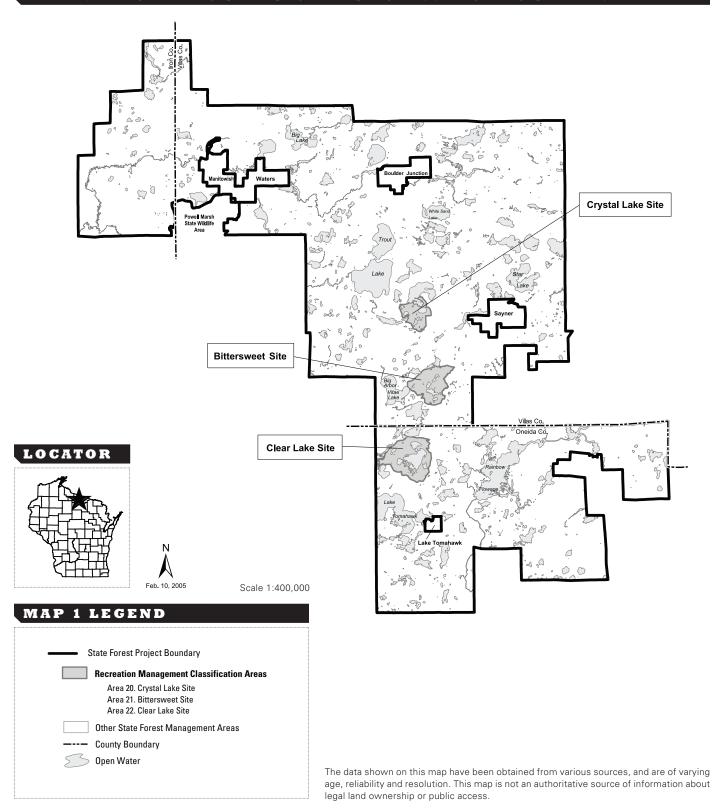
The purpose of a recreation management area is to provide and maintain land and water areas and facilities for outdoor public recreation or education. Each separate recreation area has different goals regarding future landscape conditions, management activities, policies for protection, maintenance, enhancement or restoration of the visual characteristics important to the recreational use of the area.



INTRODUCTION 20-2

AREAS 20-22

MAP 49: RECREATION MANAGEMENT CLASSIFICATION AREAS



AREA 20

Recreation Management Classification

CRYSTAL LAKE

This small 1,447 acre area is a subset of Area 7 – Vilas Sandy Plains Central. As such, it contains much of the same geological and ecological characteristics of that larger unit. It consists of pitted outwash topography with well-drained sandy soils and several high quality lakes. The unit is located within two different land types situated to the north and to the south, with the more productive habitats occurring in the southeast corner, south and east of Fallison Lake.

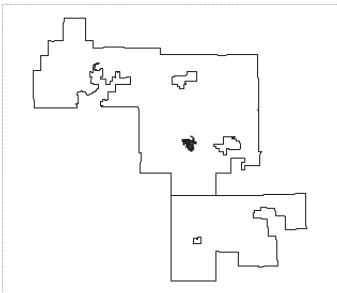
Red oak is the dominant type found in this area today, followed by equal parts of red and white pine and aspen types. All three of these types are well suited to the ecological capability of the area. Typical understory shrubs in this unit consist of hazelnut, juneberry, low sweet blueberry, sweetfern, and maple-leaf viburnum. Typical herbs include wild lily-of-the-valley, bracken fern, grasses and sedges, and big leaf aster. Forested wetlands are essentially non-existent; however, a fair amount of open wetlands are scattered throughout.

At European settlement, this area was mostly covered with red and white pine. White birch and aspen were also present in significant amounts as secondary types, along with patches of jack pine and an area of northern hardwood. Historically, fire was a significant disturbance factor in this area. Stand replacing fires had cycles every 50-200 years, but some trees probably survived over 300 years. Some fires may have burned the understory without killing the pines, creating a more open forest where this occurred. Other fires opened up stands and set succession back to the early pioneer species and shrubs.

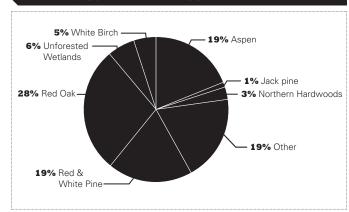
AREA 20 SUMMARY

- ▲ This area is approximately 1,447 acres in size with 1,178 acres in state ownership.
- A This area is the most heavily used recreational area on the State Forest.
- A Aesthetic quality and safety of forest users will be the primary objectives in this area.
- A This area contains the Firefly Lake managed old growth forest site.

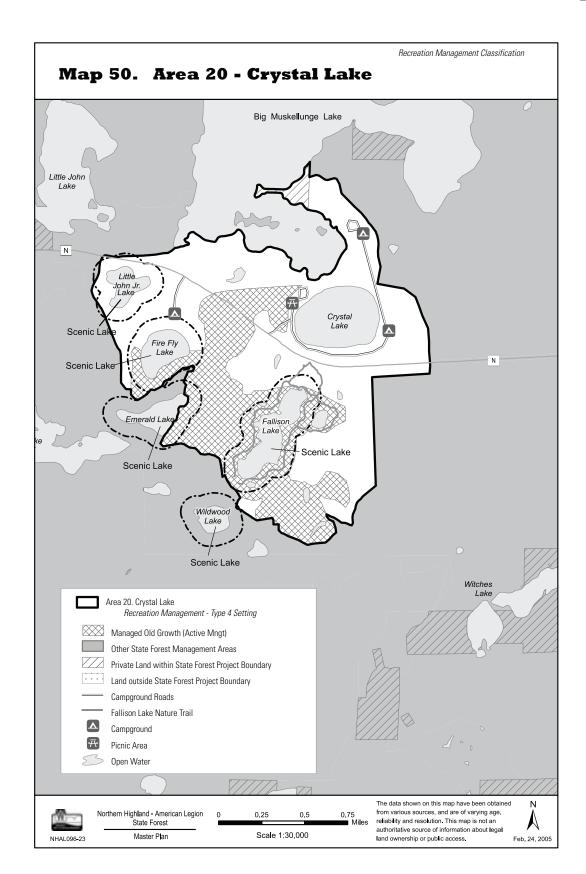
AREA 20 LOCATOR MAP



AREA 20 CURRENT LAND COVER



CRYSTAL LAKE 20





CRYSTAL LAKE

DESCRIPTION OF THE RECREATIONAL SETTING

The Crystal Lake Recreation Area is the most developed and the most used recreational complex site on the NH-AL. It has three modern campgrounds, Crystal Lake, Firefly Lake, and Muskellunge Lake. A day use area and nature center and the Fallison Nature Trail compliments the area. Other facilities within this management area include large sandy beaches, swimming areas, showers, vault and flush toilets, a sanitary dump, a paved bike trail leading to Boulder Junction, boat landings to area lakes, and a public contact station.

LONG-TERM OBJECTIVES (100 YEARS)

- Maintain the area as an attractive and safe setting for intensive and non-intensive types of recreational use, such as camping, picnicking, water sports, trail activities, and nature interpretation.
- Maintain a mixed forest dominated by older red and white pine and red oak with aspen, white birch, and jack pine as important secondary species. Maintain red oak on sites with slightly richer soils.
- Maintain and protect open wetlands.
- Within the Firefly Lake old-growth site maintain oldgrowth pine, oak and mixed hardwoods.

SHORT-TERM OBJECTIVES (50 YEARS)

- Provide opportunities for high quality, modern, intensive recreational uses featuring modern camping and day uses and nature interpretation/education in an attractive outdoor setting.
- Increase red and white pine and red oak dominance across most of the mixed forest stands as opportunities arise
- Retain and increase red and white pine in aspen, red oak, white birch and jack pine stands.
- Maintain a diversity of the early forest succession types over the area with a slight decrease in their relative abundance over time.
- Maintain the northern hardwood community type.
- Maintain and enhance red oak on suitable sites.
- Within the Firefly Lake old growth site encourage the development of a mixed pine forest dominated by old trees, large amounts of coarse woody debris, numerous standing dead snags, and an age diversity of trees.

RESOURCE MANAGEMENT PRESCRIPTIONS

The General Timber Type Management Prescriptions and all of their associated management activities (described at the beginning of the Land Management Section) apply, except as limited by the prescriptions below:

- Conduct forest management activities at times that will have the least conflict with recreational use. Adjust management techniques to minimize negative visual impacts on recreational uses.
- Adapt the General Management Prescriptions for each stand to create, enhance and maintain old growth red/white pine, red oak, and stands of mixed northern hardwoods consisting of short-lived and long-lived species characteristics. This includes providing coarse woody debris, leaving large cull trees and increased snag tree densities.

RECREATION MANAGEMENT

Maintain the existing array of recreational facilities and expand or redevelop facilities within the area as described in the property-wide recreation management plan and consistent with the standards for a Type 4 Recreational Use Setting and modern campgrounds and dayuse areas in NR 44.07(7)(e)5b. Specific new developments or management actions include:

- An additional 50 campsites at the Firefly Lake Campground
- A 1.6 mile paved bike trail loop and a one mile nature trail that is in part disabled accessible.
- An outdoor seating area near the nature center for educational programs

CRYSTAL LAKE



Table 2.16 Area 20 - Crystal Lake, Current and desired future conditions for community types in acres and percent of total.

Community type	Current		Predicted 50-year Condition*	
	Current Acres	Current % Cover	Acreage Objective	Future % Cover
Aspen	230	19%	200	17%
Jack Pine	9	1%	9	1%
Northern Hardwoods	37	3%	37	3%
Other - Campground	219	19%	219	19%
Red and White pine	224	19%	254	21%
Red Oak	331	28%	351	30%
Unforested Wetlands	74	6%	74	6%
White Birch	54	5%	34	3%
TOTAL	1178	100.00%	1178	100.00%

^{*} Predicted 50-year Condition is an estimate of the forest covertype in 50 years and does not necessarily reflect the long-term objectives of the Area.





BITTERSWEET

The 2,553 acre Bittersweet area lies just a few miles north and east of the towns of Woodruff off State Highway 70. It is located on fine sandy loam soils with a gentle to moderate rolling topography. Besides the sandy loams, a portion of the area also contains some excessively drained outwash sands, particularly in the southeast corner of the site. A range of habitat types can be found here. The site contains four undeveloped, high quality softwater seepage lakes in close proximity to one another. An existing State Natural Area is located around these four lakes.

At European settlement the area contained stands of hemlock hardwood on the richer soils and red and white pine on the sandier soils. Early successional species like aspen, white birch, and oak also were present as secondary associates or in disturbance patches. Historically, fire was a significant disturbance factor within this unit, as it was in many areas on the State Forest. Wind throw was and is another important disturbance factor. Sporadic wind events played a vital role in shaping forest succession.

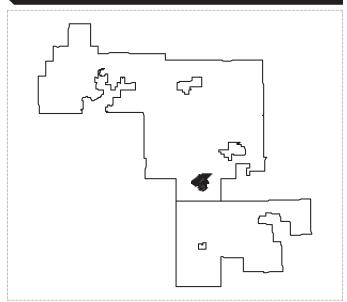
At present the most common forest types are aspen, red oak and white birch, although the latter is rapidly declining and will soon no longer be a component of the stand. There are also significant areas of northern and hemlock hardwoods and red and white pine. There are relatively few forested and unforested wetlands scattered across the landscape.

This area contains a complex of small, scenic, undeveloped, wild lakes (Bittersweet, Prong, Oberlin, and Smith) connected by portage trail. Another unique recreational quality of the area is its remoteness and the solitude it affords. Access is only via rough and unmarked roads (i.e. snowmobile trails) that generally require a 4W-drive vehicle. Low to moderate fishing is the primary recreational use. Currently camping is not allowed.

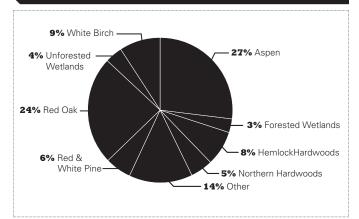
AREA 21 SUMMARY

- **A** This area is approximately 2,553 acres in size with 2,553 acres in state ownership.
- **A** Opportunity to manage for quiet year-round recreation in a non-motor area.
- **A** Manage for scenic qualities, user safety, and old-growth forests.
- ▲ Five Wild Lakes

AREA 21 LOCATOR MAP

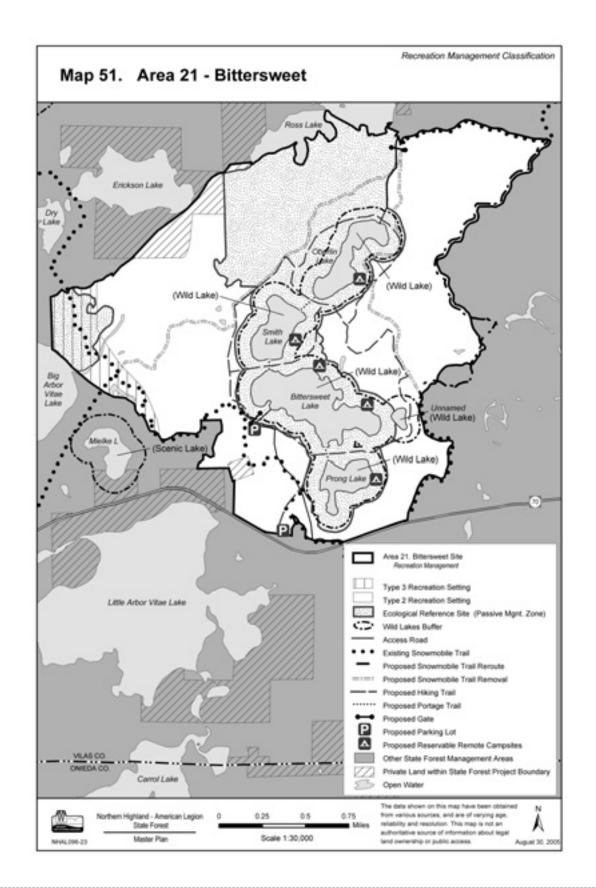


AREA 21 CURRENT LAND COVER



2 **1**

BITTERSWEET





BITTERSWEET

LONG-TERM OBJECTIVES (100 YEARS)

- Develop and maintain a hemlock hardwood, northern hardwood, red pine, and white pine forest with oldgrowth characteristics across the management area.
- Maintain four ultra-soft water lakes for their biotic community and scenic values.
- Maintain opportunities for low density/low impact, and primarily non-motor recreation in a somewhat remote and natural appearing setting.

SHORT-TERM OBJECTIVES (50 YEARS)

- Maintain a core 1,136 acre passively managed ecological reference area surrounding the lakes that captures the oldest stands of hemlock, red pine and white pine known on the NH-AL. (The acreage figure includes 288 lake acres.)
- Outside of the core ecological reference site restore oldgrowth red and white pine and hemlock hardwood cover types wherever possible, and on dry, sandy sites maintain and enhance red oak, aspen, and white birch.
- Maintain water quality and species diversity of the aquatic areas.
- Provide an undeveloped, natural appearing setting on and around the lakes offering opportunities for solitude and primitive types of non-motorized, low-density recreation, including fishing, canoeing, hiking, and primitive camping.



RESOURCE MANAGEMENT PRESCRIPTIONS

The General Timber Type Management Prescriptions and all of their associated management activities (described at the beginning of the Land Management Section) apply, except as limited by the prescriptions below:

- Apply passive management to the core ecological reference site. The lakes within this zone are designated wild lakes. The prescribed passive management is fully compatible with the wild lake management requirements.
- Outside of the ecological reference site, increase the proportion and age of red pine, white pine, red oak, and hemlock. Active management techniques may be used.
- Manage within the zone classified as a Type 2
 Recreational Setting consistent with the requirements
 for that setting described in NR 44.07(5).
- Conduct management activities at times that will have the least conflict with recreational use. Adjust management techniques to minimize negative visual impacts on recreational uses. Give aesthetic and recreational uses preference when making active timber management decisions.
- Oberlin, Smith, Bittersweet and Prong Lakes are designated experimental lakes as per Administrative Code NR 20.41. All management activities should consider the long and short term impacts to the research lakes.

RECREATION MANAGEMENT

As shown on the Bittersweet Recreation Management Area map, the majority of the management area is designated as Type 2 Recreational Use Setting. The intent of a Type 2 Recreation Use setting is to provide a somewhat remote, non-motorized recreation in a highly natural appearing setting. The remainder of the management area is designated as a Type 3 Recreational Use Setting. The Type 2 and 3 settings are defined in NR 44.07(5). The lakes in the management area are designated wild lakes.

Within the Type 2 Management Area

Public use of the area is primarily by non-motorized means. This management area is closed to public motor vehicle use of all types, except for the access roads to Bittersweet Lake, the access road to Oberlin Lake for disabled persons, and to snowmobiles operated on trails designated in this plan. Other recreational facilities to be developed within this area are primitive hiking trails and a limited number of reservable, remote primitive campsites.

BITTERSWEET



Table 2.17 Area 21 - Bittersweet, Current and desired future conditions for community types in acres and percent of total.

Community type	Current		Predicted 50-year Condition*	
	Current Acres	Current % Cover	Acreage Objective	Future % Cover
Aspen	579	27%	530	24%
Forested Wetlands	74	3%	74	3%
Hemlock Hardwoods	176	8%	176	8%
Northern Hardwoods	103	5%	103	5%
Not Classified	308	14%	308	14%
Red and White pine	133	6%	163	7%
Red Oak	516	24%	585	26%
Unforested Wetlands	85	4%	85	4%
White Birch	579	27%	529	24%
TOTAL	2553	100.00%	2553	100.00%

Not Classified category contains acres that community types have not been inventoried and management set backs along lakeshores.

Specific recreation management/development actions in the area include the following:

- Maintain a primitive to lightly-developed public vehicle access road from Highway 70 to Bittersweet Lake. Provide a carry-in boat/canoe access to the lake with a 6-8 vehicle parking area outside of the 400 foot wild lake management zone.
- Permanently maintain the existing lightly-developed vehicle access road to Oberlin Lake from the north for use by Department staff for management or research purposes. Allow disabled persons (with a permit issued by the Forest Superintendent) motor vehicle access to Oberlin Lake via this road for fishing until 2015.
- Close all other roads and snowmobile trails to public vehicles and snowmobiles, except the snowmobile trail lying to the southwest of Bittersweet and Prong Lakes. As shown on Bittersweet Recreation Management Area map, this trail will remain open to snowmobile use. If a suitable location can be found, relocate the northwestern snowmobile trail portion of the snowmobile trail to the west, further away from Bittersweet and Prong Lakes. If a suitable location can be found a portion of the area can be reclassified to a Type 3 Recreation Area north of the trail.
- Relocate a portion of the north/south snowmobile trail located on the eastern side of the lakes to the eastern border of the management area as shown on Map 51.
- Abandon the closed snowmobile trails that are not

- designated as hiking trails by grading and seeding to control erosion, then allowing the trail to naturally revegetate.
- Develop and maintain five reservable remote primitive campsites, two on Bittersweet Lake, and one each on Smith, Oberlin, and Prong Lakes in the approximate locations shown on Bittersweet Recreation Management Area map.
- Maintain a system of primitive portage trails between the four lakes.
- Develop and maintain a lightly developed hiking trail system.
- Develop and maintain a 10-12 vehicle parking lot at the hiking trail head located near Hwy 70.
- The department or its contractors are authorized to use motor vehicles to conduct management activities in any area outside the 400 foot wild lake management zones.

Within the Type 3 Management Area

Continue to maintain the snowmobile trail and allow all vehicle access on the non-gated portion of snowmobile trail (the north-south portion near Big Arbor Vitae Lake).

STATE NATURAL AREA DESIGNATION

See State Natural Area discussion in the Appendix for detailed information. Proposed overlay designations for State Natural Area would occur for Bittersweet Lakes (1,136 acres, includes 288 lake acres).

^{*} Predicted 50-year Condition is an estimate of the forest covertype in 50 years and does not necessarily reflect the long-term objectives of the Area.

AREA 22

Recreation Management Classification

CLEAR LAKE

This small 3,728 acre area is a subset of Area 11 – Big Arbor Vitae Loamy Hills. As such, it contains much of the same geological and ecological characteristics of that larger unit. The main focus of this area is to provide for quality recreational experiences through a number of developed facilities and trail systems in an attractive setting. The topography of the area consists of rolling pitted outwash soils with several wetlands and quality lakes of various sizes. The unit is located within two different land types. Clear Lake is the centerpiece and is roughly situated in the middle of the management unit. A variety of habitat types can be found here.

At European settlement, the area contained stands of northern hardwoods with pockets of hemlock hardwood on the richer soils and red and white pine on the sandier soils. Early successional species like aspen, white birch, red maple and oak were also present as secondary associates or in disturbance patches. Within the forested wetlands, tamarack and black spruce were predominant, with some scattered white cedar. Historically, fire was a significant disturbance factor in this area, especially in the western side of the unit. Stand replacing fires had cycles every 50-200 years, but some trees probably survived over 300 years. Wind throw was and is another important disturbance factor. Sporadic wind events, even recently, have played a vital role in shaping forest succession.

Today the area is primarily forested with northern hardwoods and red oak, with aspen and red and white pine also found in significant amounts. There are stands of older hemlock hardwoods and white-red pine forest located within close proximity to Hemlock Lake.

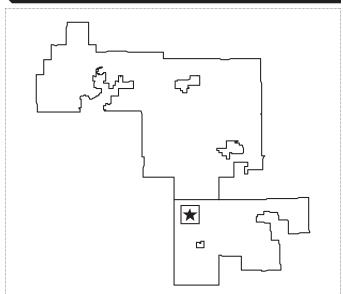
Description of the Recreational Setting

The Clear Lake Recreation Area is within easy access of the Minocqua/Woodruff tourist attractions. This area contains the most popular campground on the American Legion State Forest (Clear Lake). It also has a designated nature/hiking/cross country ski trail (Raven) and two popular day use/picnic areas. The modern Clear Lake Campground has flush toilets, showers and a sanitary dump station. A small rustic campground is also located on Carrol Lake. A remote camping opportunity is available at four reservable, remote campsites on Clear Lake's east shore. Other recreational facilities in this area are a large sandy beach, swimming area, water ski area, picnic area, boat landings, accessible fishing pier, and a contact station.

AREA 22 SUMMARY

- **A** This area is approximately 3,728 acres in size with 2,659 acres in state ownership.
- ▲ Designated as a Recreation Management area.
- Management to provide and maintain land and water areas and facilities for outdoor public recreation or education.
- ▲ Integrate recreational use with forest management practices.
- ▲ The Hemlock Lake site will be passively managed.
- ▲ This area contains Inkpot Lake which is a Wild Lake.

AREA 22 LOCATOR MAP





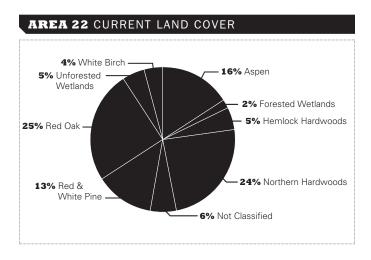
CLEAR LAKE

LONG-TERM OBJECTIVES (100 YEARS)

- Maintain the area as an attractive and safe setting for intensive and non-intensive types of outdoor recreational use, such as camping, picnicking, water sports, trail activities, and nature interpretation.
- Develop a complex of mesic hemlock hardwoods, northern hardwoods and dry-mesic white pine-red pine and red oak forest with old growth characteristics.
 Secondarily, maintain limited amounts of aspen and other minor early successional types.
- Maintain and enhance the hemlock hardwood and pine types and maximize their old growth characteristics through a variety of active and passive management techniques.
- Maintain open and forested wetlands.

SHORT-TERM OBJECTIVES (50 YEARS)

- Increase white pine-red pine as opportunities allow with a corresponding small reduction of red oak and aspen.
- Maintain red oak on the most suitable sites.
- Maintain the northern hardwoods,
- Maintain pine plantations with regular silvicultural techniques (thinning) to promote health, vigor, and large tree size
- Provide opportunities for high quality, modern, intensive recreational uses featuring modern camping and day uses and nature interpretation/education. Provide for non-motorized trail uses.
- In the area around Hemlock Lake, located west of Raven nature trail, maintain and enhance the hemlock hardwood and pine types to maximize old growth characteristics.

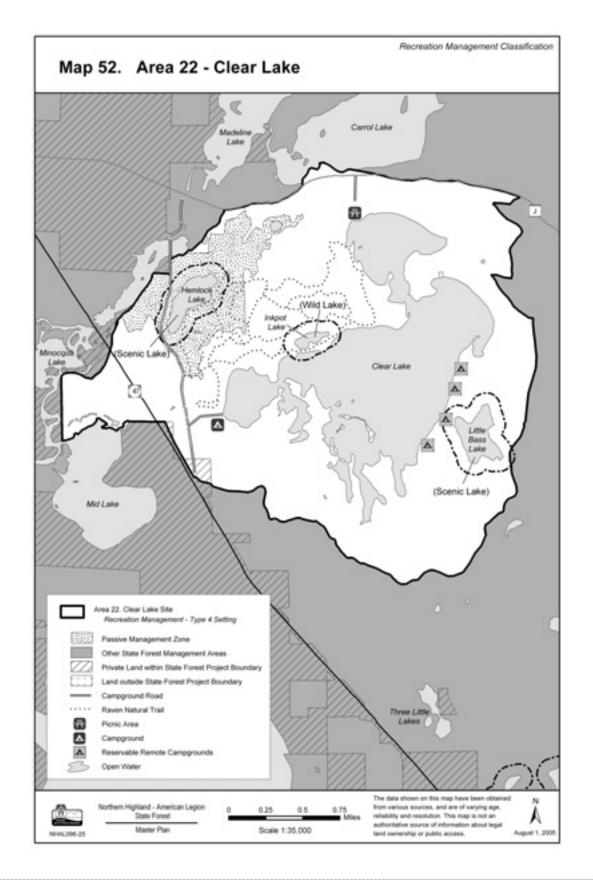


RESOURCE MANAGEMENT PRESCRIPTIONS

The General Timber Type Management Prescriptions and all of their associated management activities (described at the beginning of the Land Management Section) apply, except as limited by the prescriptions below:

- Use a variety of management techniques to maintain and enhance the hemlock hardwood and pine and to maximize their old growth characteristics and lands outside of the Passive Management Zone.
- Passively manage the passive management zone shown on map 52. Except that salvage may be done as necessary to clean trail corridors or to remove hazard trees along trails.
- Maintain open and forested wetlands largely through passive management.
- When harvesting in mixed forest stands retain most red and white pine and encourage pine regeneration at the expense of aspen, birch, and in some cases, red oak.
- On several suitable sites retain and maintain red oak as the dominant cover type. On these sites use mechanical scarification or understory planting with white pine to increase its presence where natural regeneration is inadequate. (These sites will be managed for a mixture of red oak and white pine, which are most suitable to these sites.)
- The extent, timing and frequency of any activity will generally be consistent with low use times of the year to minimize conflicts with most recreational users.
- Conduct forest management activities at times that will have the least visual, noise and access conflicts with recreational use. Adjust management practices to minimize negative visual impacts on recreational uses.

CLEAR LAKE 22



CLEAR LAKE



Table 2.18 Area 22 - Clear Lake, Current and desired future conditions for community types in acres and percent of total.

Community type	Current		Predicted 50-year Condition*	
	Current Acres	Current % Cover	Acreage Objective	Future % Cover
Aspen	430	16%	400	15%
Forested Wetlands	60	2%	60	2%
Hemlock Hardwoods	122	5%	122	5%
Northern Hardwoods	634	24%	674	25%
Not Classified	147	6%	147	6%
Red and White pine	358	13%	462	17%
Red Oak	674	25%	600	23%
Unforested Wetlands	137	5%	137	5%
White Birch	97	4%	57	2%
TOTAL	2,659	100.00%	2,659	100.00%

Not Classified category contains 80 acres in campground and 67 acres in a utility Right of Way and picnic area.

RECREATION MANAGEMENT

Maintain the existing array of recreational facilities and expand or redevelop facilities within the area as described in the property-wide recreation management plan and consistent with the standards for a Type 4 Recreational Use Setting and modern campgrounds and dayuse areas in NR 44.07(7)(e)5b. Specific new developments or management actions include:

- Add 50 campsites at the Clear Lake campground
- Construct a modern 60 unit campground and a boat landing on the north-east shore of Carrol Lake.
- Convert the existing 19 site rustic Carrol Lake campground into a picnic area with beach access, swimming, and boat landing.
- Build a five mile hiking, backpacking and snowshoeing trail around Clear Lake.
- Close the Raven Trail to bicycles, maintain the trail for skiing/hiking.



^{*} Predicted 50-year Condition is an estimate of the forest covertype in 50 years and does not necessarily reflect the long-term objectives of the Area.